was associated with an elevated risk of adverse cardiovascular events and mortality. Although inextricable links exist between obesity, type-2 diabetes and cardiovascular disease in the general population, the extent to which findings can be extrapolated to a diabetes-specific population is limited.

PDB2

A1C AND WEIGHT OUTCOMES FOLLOWING 6 MONTHS OF ANALOG BASAL INSULIN IN INSULIN NAÏVE PATIENTS WITH TYPE-2 DIABETES IN AN AMBULATORY CARE SETTING

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OBJECTIVES: This study evaluated real world outcomes for type 2 diabetes (T2D) patients treated with analog basal insulin (glargine or detemir) on glycemic control and weight after 6 months in a national electronic medical record (EMR) database. **METHODS:** Patient data were extracted from the General Electric (GE) EMR database from January 1, 2000 through December 31, 2007. Patients were ≥18 years old with T2D defined by ICD-9 codes, ≥2 fasting blood glucose levels ≥126 mg/dL, or A1C > 7.0%. Patients had prescription orders in the previous 395 days for metformin, a sulfonylurea or a thiazolidinedione, alone or in combination, or had no prior antidiabetic treatment. Patients were initiated on a basal insulin with no prior insulin use, had no other insulin prescribed within six months of basal insulin initiation, and had at least one additional order for the prescribed basal insulin within six months. Baseline A1C and weight were documented ≤45 days prior to ≥15 days post basal insulin initiation and at six months post initiation ± 45 days. **RESULTS:** Of patients with 6 month A1C or weight follow-up data (n = 841 and n = 1817, respectively), mean (±SD) baseline A1C was 9.0 ± 1.9% and weight was 99 ± 25.0 kg. Mean BMI was 34.7 ± 8.1 kg/m^2. The majority were treated with insulin glargine (n = 1754; 91.2%). At six months mean (SEM) A1C reduction was –1.2(0.1)% with 20.0% (n = 393) achieving A1C goal of <7.0%;. Mean weight gain was 1.0(0.1) kg ($p < .001$) and 60% (n = 1103) of patients gained weight. **CONCLUSIONS:** In a real world setting, most patients (80%) did not reach ADA targets for glycemic control with analog basal insulin treatment. Additionally, the majority of patients (60%) experienced weight gain.

PDB3

EFFECTS OF SUSTAINED-RELEASE VERSUS IMMEDIATE-RELEASE GLIPIZIDES FOR TYPE-2 DIABETES MELLITUS: A SYSTEMATIC REVIEW OF 16 RANDOMIZED TRIALS

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OBJECTIVES: Sustained-release glipizide has a more appealing pharmacological profile over immediate-release glipizides. However, individual trials have not reliably ascertained its effects. This study systematically reviewed the trials that compared the effects of sustained-release glipizide with the conventional immediate-release glipizide for type 2 diabetes mellitus. **METHODS:** We searched Medline, EMBASE, the Cochrane Library and three other Chinese databases from their inception to July 2008, as well as screened the reference lists of eligible trials and reviews, and contacted the company (Pfizer) for unpublished data. Two reviewers judged the trial eligibility, assessed the validity, and extracted data independently. We pooled the trial data using the random-effect model and explored the heterogeneity by the pre-specified variables. **RESULTS:** A total of 16 trials (n = 1033) were included. Sustained-release glipizide significantly decreased FPG by 0.33mmol/L (weighted mean difference, 95%CI 0.05 to 0.61), postprandial insulin levels by 3. iIU/ml (0.89 to 5.47), and C-peptide by 0.12 ng/ml (0.04 to 0.20). Sustained-release glipizide did not reduced the HbA1c (–0.02, –0.20 to 0.15), postprandial plasma glucose (0.38, –0.47 to 1.22), fasting insulin levels (1.20, –0.14 to 2.54). No statistical differences were found in the change of total cholesterol (0.09, –0.06 to 0.23), triglyceride (0.13, –0.04 to 0.29), LDL (–0.03, –0.12 to 0.05), HDL(0.04, –0.02 to 0.10), and hypoglycemia (RR 0.79, 95%CI 0.22 to 2.86). No trials reported diabetes-related morbidity and mortality. **CONCLUSIONS:** Sustained-release glipizide could reduce FPG, postprandial insulin levels, and C-peptide, but has not shown benefits in reducing HbA1c, PPG, and fasting insulin levels when compared to immediate-release glipizide. Uncertainty remained in the benefits of sustained-release glipizide over immediate-release glipizide. This was mainly driven by the small sample size of the trial and lack of long-term morbidity and mortality data.

PDB4

METFORMIN TREATMENT FOR IMPROVING OUTCOMES RELATED TO INFERTILITY IN POLYCYSTIC OVARY SYNDROME – A BAYESIAN ANALYSIS

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OBJECTIVES: This study was conducted to determine the usefulness of metformin therapy in improving outcomes related to infertility in patients with polycystic ovary syndrome (PCOS). A Bayesian meta-analytic and mixed treatment comparison (MTC) approach was used. **METHODS:** An electronic literature search was performed using PubMed and the Cochrane Central Register of Controlled Trials to identify randomized controlled trials that reported at least one of the outcomes of interest – ovulation, pregnancy and live birth in PCOS patients randomized to treatment with either metformin, clomiphene citrate (CC) or combination of these drugs, which included a comparison with either placebo or each other. Reference lists of meta-analyses and reviews were hand searched to identify any additional articles. Bayesian meta-analyses were conducted for each outcome separately and for different therapeutic comparisons with metformin. Additionally, Bayesian MTCs were also conducted for each outcome. Analyses were performed using random effects models. **RESULTS:** A total of 27 RCTs were identified and 24 studies reported outcomes in a usable form for inclusion in the analysis. The total number of patients was 2217. The meta-analyses revealed that metformin was superior to placebo for ovulation induction (median OR = 2.9 with 95%[CrI] 1.6–6.0). Comparison of metformin and CC to CC alone revealed that combination therapy was superior in both ovulation induction (median OR = 4.2 with 95%[CrI] 1.5–12.3) and pregnancy (median OR = 5.0 with 95%[CrI] 1.7–22.4). When live birth was considered there was no significant difference between combination therapy and CC alone (median OR = 2.2 with 95%[CrI] 0.4–55.5). In the MTC, the efficacy of the therapeutic comparisons for ovulation and pregnancy in descending ranking order was combination therapy, CC alone, metformin alone and placebo. **CONCLUSIONS:** Combination therapy with metformin and CC is more effective than CC alone in ovulation and pregnancy outcomes in women with PCOS.

PDB5

SYSTEMATIC REVIEW IN TYPE-2 DIABETES – WHAT IS THE INFLUENCE OF LIFESTYLE CHANGE?

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OBJECTIVES: The aim of this review was to assess whether lifestyle education programs significantly improve glucose levels or lower the incidence of type-2 diabetes in people at high risk, compared with conventional education programs. **METHODS:** English language trials assessing lifestyle interventions (physical exercise, diet control and counselling programs) compared to usual care controls were searched via electronic databases. Two investigators independently reviewed abstracts and included studies in which subjects had impaired glucose tolerance, impaired fasting glucose or borderline values. Data was extracted from each included full-text publication. The outcomes of interest included change in glucose levels two hours after a 75g oral glucose load, change in fasting plasma glucose levels, and cumulative diabetes incidence during the intervention period. **RESULTS:** Eleven citations met the eligibility criteria, out of 198 retrieved from the databases. Of these, only four presented sufficient data for meta-analysis. Meta-analysis of two studies indicated that the decrease from baseline in 2-hour plasma glucose was significantly greater in the lifestyle intervention group than in the control group (WMD = –11.292 mg/dL, 95% CI: –17.718, –4.866). Results were similar for fasting plasma glucose, with a fixed-effects meta-analyses of data from the same two studies showing a significantly greater decrease from baseline in the intervention group compared to control (fixed effects WMD = –2.158 mg/dL, 95% CI: –4.239, –0.077). Meta-analysis of two other studies indicated that the cumulative diabetes incidence in the lifestyle intervention group was significantly lower than in the control group (fixed effects RR = 0.619, 95% CI: 0.522, 0.733). **CONCLUSIONS:** Structured lifestyle interventions involving a healthy diet and physical activity are an effective way to treat, prevent, and possibly delay type-2 diabetes. If lifestyle interventions are cost-effective from a health system perspective, they should be more frequently considered as a valid treatment option.

PDB6

18 MONTH A1C AND WEIGHT OUTCOMES OF EXENATIDE THERAPY IN PATIENTS WITH TYPE-2 DIABETES IN A REAL-WORLD STUDY

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OBJECTIVES: Six-month real-world outcomes were previously reported for exenatide, a GLP-1 receptor agonist for the treatment of type- 2 diabetes (T2D). A1C reductions were –0.7%, weight reductions were –2.8 kg, and BMI reductions were –0.94 kg/m^2. The current 18 month analysis evaluated A1C, weight, and BMI outcomes to establish real-world durability of glycemic control and weight loss in patients using exenatide. **METHODS:** Data were extracted from the General Electric electronic medical record database from January 1, 2000 to December 31, 2007. Adults with T2D per ICD-9 codes, ≥2 fasting blood glucose levels ≥126 mg/dL, or A1C > 7.0% starting exenatide in or after 2005 were included. Patients had 2+ additional prescription orders including at least one 12 to 18 months after the initial prescription to indicate ongoing therapy, and had prior prescription orders for metformin, a sulfonylurea, or a thiazolidinedione alone or in combination. A1C, weight and BMI were documented at exenatide initiation (–45 to + 15d) and at 18 months (±45 d). Outcomes were evaluated in those with baseline and follow-up A1C, weight and BMI measures. **RESULTS:** In 102 study patients, baseline A1C was 8.2+1.1%, weight was 111 ± 12.3 kg. Baseline BMI was 38.6≥ ± 7.4 kg/m^2 in those with baseline and follow up data (n = 89). After 18 months of exenatide therapy, mean (±SEM) A1C decrease was –0.7(±0.2)% ($p < .001$), weight decrease was –4.7(±0.7) kg ($p < .001$), and BMI decrease was –0.8 (±0.3) kg/m^2 ($p < .001$). A total of 72.0% had an A1C reduction, 76.7% lost weight, and 57.0% had reductions in A1C and weight. Mean A1C reduction was identical and weight loss was approximately 2 kg greater at 18 months relative to 6 month cohort exenatide outcomes. **CONCLUSIONS:** Exenatide therapy was associated with significant reductions in A1C, weight and BMI at 18 months. These reductions demonstrate treatment durability with exenatide and continuous benefit from long term therapy.